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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,875	06/25/2003	Masahito Honda	OHT-0018	2244

23353 7590 09/12/2006

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EXAMINER

HANNON, CHRISTIAN A

ART UNIT	PAPER NUMBER
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2618

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/602,875	<b>Applicant(s)</b> HONDA, MASAHI TO	
	<b>Examiner</b> Christian A. Hannon	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-5,7,9,10,12-14,16-19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,10,12,13 and 21 is/are rejected.
- 7) ☒ Claim(s) 4,14 and 16-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5, 7, 9 & 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki (US 2002/0064018).

Regarding claim 1, Suzuki teaches a slide-type multi-directional input key comprising a key top (Figure 1, Items 1 & 6; Page 2, [0035]) which has an upper portion protruding from an insertion hole (Figure 1, Item 2b; Page 2, [0037]) extending through an exterior member (Figure 1, Comprising items 3 & 7) and a lower portion having a pushing member (Figure 1, Item 1b; Page 2, [0036]) protruding downwardly therefrom and which is capable of sliding in the direction of a hole inner surface of the insertion hole, a plurality of contact input portions adapted to effect input upon receiving pressure from the pushing member when the key top is caused to slide (Figure 2, Items 9a-9e; Page 3, [0046]) and a key sheet (Figure 1, Item 5) formed of a rubber-like resilient material, the key sheet being adapted to support the key top so as to allow the key top to slide from the initial position in the direction of the hole inner surface of the insertion hole and in the return direction toward the initial position, the key sheet generating an

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elastic urging force whereby the key top returns automatically to the initial position (Page 2, [0039]; Figure 1, Item 5), wherein the one pushing member is in a central portion of the lower portion of the key top, and the pushing member can effect input through the plurality of the contact input portions (Page 3, [0050]) wherein the key sheet is firmly attached to the key top and the exterior member (Figure 1, Items 1, 3, 5 & 7).

With respect to claim 3, Suzuki teaches the input key of claim 1, wherein the key top is composed of upper (Figure 1, Item 1) and lower (Figure 1, Item 6) key top portions, between which the key sheet is sandwiched for firm attachment.

In regards to claim 5, Suzuki teaches the input key of claim 1, wherein the exterior member has on a back surface thereof a stopper protrusion (Figure 1, Item 7; Page 3, [0043]) for stopping the sliding of the key top before the key top comes into contact with the insertion hole. It is further noted by the examiner that the key top can never come in contact with the insertion hole as the insertion hole is defined by 2a in figure 1 and is firmly attached to the elastic member 5 of figure 1 which always fills the void of the insertion hole (two different objects cannot occupy the same place at the same time).

With respect to claim 7, Suzuki teaches the input key of claim 1, further comprising a central contact portion below the pushing member of the key top at an initial position thereof (Figure 1, Item 5d; Page 3, [0048]).

Regarding claim 9 Suzuki teaches the input key of claim 7, wherein when the key top is at a slide position, the bottom surface of the pushing member is situated above

the central contact portion so that the pushing member can effect input through both the contact input portions and the central contact portions (Page 3, [0045]-[0046]).

In regards to claim 21, Suzuki teaches a slide-type multi-directional input key comprising a key top (Figure 1, Items 1 & 6; Page 2, [0035]), including an upper portion protruding from an insertion hole (Figure 1, Item 2b; Page 2, [0037]) extending through an exterior member (Figure 1, Comprising items 3 & 7) and a lower portion having a pushing member (Figure 1, Item 1b; Page 2, [0036]) protruding downwardly therefrom and which is capable of sliding in the direction of a hole inner surface of the insertion hole, a plurality of contact input portions adapted to effect input upon receiving pressure from the pushing member when the key top is caused to slide toward at least one of the contact input portions (Figure 2, Items 9a-9e; Page 3, [0046]) and a flexible film having an exposure hole, the pushing member being adapted to come into contact with the hole inner surface of the exposure hole, the examiner is interpreting the flexible film to be the elastic element 5 of figure1, and the exposure hole to be synonymous with the insertion hole, wherein the one pushing member is in a central portion of the lower portion of the key top and the pushing member can effect input through the plurality of the contact input portions (Page 3, [0050]).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10, 12 & 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of Strohmeier (US 6,871,060).

Regarding claim 10, Suzuki teaches the input key of claim 1, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob which obviously has two directions (volume up and volume down).

With respect to claim 12, Suzuki teaches the input key of claim 5, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob which obviously has two directions (volume up and volume down).

Suzuki teaches the input key of claim 13, however fails to teach wherein the exterior member is a ring-shaped outer-ring key top allowing multi-directional input. Strohmeier teaches wherein an exterior member has a ring-shaped outer-ring key top allowing multi-directional input (Figure 1, Item 2 & 2a; Column 2, Lines 22-24 & 43-45; Strohmeier). Therefore it would have been obvious to implement Strohmeier's teaching into Suzuki in order to provide for more tactile input capacity (Page 6, [0116] Suzuki). It is noted by the examiner that Strohmeier teaches the exterior member's ring shaped outer key is a volume control knob which obviously has two directions (volume up and volume down).

***Allowable Subject Matter***

5. Claims 4, 14 & 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, Suzuki teaches the input key of claim 1, however Suzuki fails to teach wherein the key sheet includes an inclined portion spreading out from the portion firmly attached to the key top, and an arch-shaped curved portion formed by upwardly bending the inclined portion starting with its lower end portion, and wherein the wall thickness of an erect wall portion in the outer periphery of the curved portion is larger than the wall thickness of an erect wall portion on the inner periphery thereof and that of the inclined portion.

With regard to claim 14, Suzuki teaches the input key of claim 1, however Suzuki fails to teach wherein the plurality of contact input portions are formed by a membrane switch composed of a base film with a plurality of lower contact portions, a flexible film with a plurality of upper contact portions corresponding to the lower contact portions, and a spacer film forming a predetermined gap between the base film and the flexible film.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 3, 7, 9 & 21 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christian A. Hannon  
August 23, 2006



QUOCHIEN B. VUONG  
PRIMARY EXAMINER

8/30/06